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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,622	12/24/2003	Ching-Jong Su	ML-24	1621

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EXAMINER
NGUYEN, KEVIN M

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/707,622	SU ET AL.
	Examiner	Art Unit	
	Kevin M. Nguyen	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 December 2003</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>15-20</u> is/are allowed.

6)☒ Claim(s) <u>1-14</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 December 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/24/2003</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1, 2 and 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by

Havel (US 6,414,662).

3.   As to claim 1, Havel conventionally discloses a visually-dazzling multi-light-

emitting diode (LED) display [Figs. 30-32], comprising:

a pattern-decoding generator [an A/D converter 74b, see Fig. 30] that receives

an activity signal [from a scaling circuit 80b, Fig. 30] that indicates occurrence of an

activity, the pattern-decoding generator [74b] generating a sequence of data signals [a

sequence of RBG data] onto a plurality of data lines [RGB buses (5,6,7), see Fig. 32];

and

a plurality of LED's [3-LED(s) (43)], coupled to the pattern-decoding generator

[74b] by the plurality of data lines [RGB buses (5, 6, 7), Fig. 30], the plurality of LED's

being driven with the sequence of data signals on the plurality of data lines [the

sequence of RBG data, see Fig. 32];

wherein the sequence of data signals [the sequence of data bits D0 to D7, see

Fig. 32] comprises at least four unique states of the data signals [at least 4 bits of 8 bits

in the PROM (77), see Fig. 32], producing a visual sequence of at least four visually

different combinations of illuminated LED's in the plurality of LED's [the PROM (77)

combines D0 to D7 bits and A0 to A7, see Fig. 32, col. 14, lines 12-57 for further details

of the operation],

Havel further discloses whereby visually different [displaying variable colors on

LED's 2a to 4g, see Fig. 41] combinations of illuminated LED's are generated by the

pattern-decoding generator [the 7-segment decoder 24b, see Fig. 41, col. 18, line 57 –

col. 24, line 20 for further details of the operation].

4.   As to claim 2, Havel further conventionally discloses a memory controller [a flip-

flop 73, Fig. 33] that controls access to a memory [76], the memory controller [73]

generating the activity signal [a clock signal 99c] when the memory is being accessed

[see col. 14, line 58 – col. 15, line 23 for further details of the operation].

5.   As to claim 7, Havel further discloses wherein the plurality of LED's comprises at

least 4 LED's and the plurality of data lines comprises at least 4 data lines [see Fig. 41].

6.   As to claim 8, Havel further discloses wherein the plurality of LED's comprises at

least 8 LED's [2a to 4f, Fig. 41] and the plurality of data lines comprises at least 4 data

lines [buses a, b, c, d, Fig. 41]; wherein each data line connects to two LED's in the

plurality of LED's [a red bus couples to 2 LED's 2a and 2a', Fig. 41], wherein two LED's

are simultaneously driven at a time by the pattern-decoding generator [see Fig. 41, col.

18, line 57 – col. 24, line 20 for further details of the operation].

7.   As to claim 9, Havel further discloses wherein each LED in the plurality of LED's

comprises a multi-color LED [RGB color LED's, see Fig. 41] having three data inputs

[three terminal BB, GB, and RB] for receiving three data lines of the plurality of data

lines [red, green, and blue buses], each of the three data inputs for controlling

illumination of a different color [variable color by mixing RGB, see Figs. 40 and 41, col.

18, line 57 – col. 24, line 20 for further details of the operation].

8.   As to claim 10, Havel further discloses wherein each multi-color LED further

comprises: a shared resistor [a resister 36a, Fig. 41] that receives current from all three

data inputs after passing through a light-emitting element [a display element "a", see

Fig. 41]; a shared output, connected to the shared resistor; wherein each multi-color

LED has three data inputs [three opposite red, green, and buses (5, 6, 7)] and one

shared output [see Fig. 41].

9.   As to claim 11, Havel further conventionally discloses wherein the pattern-

decoding generator [Fig. 12] comprises: an address generator [A0 to A3] that is clocked

by the activity signal [an enable input to a buffer 64b], the address generator [A0 to A3]

incrementing an N-bit address [bit a to bit g] in response to the activity signal; an

address decoder [7 segment decoder driver 24], receiving the N-bit address [A0 to A3]

from the address generator, for decoding the N-bit address to drive the plurality of data

lines [bit a to bit g] that comprise M data lines, wherein M is larger than N (7 > 4) [see

Fig. 12, col. 7, line 63 – col. 8, line 26 for further details of the operation].

10.   As to claim 12, Havel further conventionally discloses wherein only one of the M

data lines is activated for each data word in the sequence of data signals [a red bus 5 is

connected to the output of a non-inverting tri-state buffer 62a for driving all red LED's,

see Fig. 12, col. 8, lines 10-26 for further details of the operation].

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

12.   Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Havel in view of Chang et al (US 6,894,865) hereinafter Chang.

13.   As to claim 3, Havel teaches all of the claimed limitations of claim 1, except

wherein the memory controller is a flash memory controller and the memory is a flash

memory.

However, Chang teaches a portable storage device such as a USB portable disk

drive (1) (corresponding to a flask memory as claimed). Furthermore, the main body 10

have a light emitting diode 16 [see Figs. 2 and 3, col. 3,lines 10-50 for further details of

the operation].

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify the light emitting diodes display device of Havel to

become the flash memory display device as taught by Chang, because this would

improve the direction of light of LEDs at various angles, be easily and separately

engaged with the fastening portion, and hang the flash device on the neck and carry it with him or her [see Chang, col. 2, lines 27-49].

14.   As to claim 4, Chang conventionally discloses wherein the memory controller further comprises a Universal-Serial-Bus (USB) flash controller that connects to a host through a USB bus [see col. 1, lines 7-10 for details of explanation].

15.   As to claim 5, the combination of Havel and Chang discloses a general-purpose bus coupled between the USB flash controller and the pattern-decoding generator; wherein the USB flash controller sends commands over the general-purpose bus to the pattern-decoding generator to control the sequence of data signals on the plurality of data lines and the visually different combinations of illuminated LED's [see the explanation of claim 1 and claim 4].

16.   As to claim 6, Havel conventionally discloses wherein the commands sent over the general-purpose bus include commands to hold a current combination of illuminated LED's, to cycle the sequence, or to illuminate a single LED, and to adjust voltage [92a, 92b] on the plurality of data lines [see Fig. 23, col. 12, lines 35-56 for further details of the operation].

17.   Claim 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Havel in view of Simon (US 6,894,901).

18.   As to claim 13, Havel discloses all of the claimed limitations of claim 1, except flexible printed-circuit board (PCB) having wiring traces formed thereon; wherein the plurality of LED's are mounted on the flexible printed-circuit board. wherein the plurality of LED's are mounted on the flexible printed-circuit board.

However, Simon teaches flexible printed-circuit board (PCB) having wiring traces

[8 and 9] formed thereon; wherein a large number of light-emitting diodes 7 mounting on

a flexible printed circuit board 4 [see Figs. 1 and 2, col. 2, lines 28 – col. 3, line 8, for

further details of the operation].

As to claim 14, Simon teaches wherein the pattern-decoding generator is also

mounted on the flexible printed-circuit board (4) [see Figs. 1 and 2, col. 2, lines 28 –

col. 3, line 8 for further details of the operation].

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to implement the flexible printed circuit board as taught by Simon in

the light-emitting diodes display device of Havel, because this would reduce the number

of connections to be produced, heat sink, and good thermal budget [see Simon, col. 1,

lines 37-49, and col. 3, lines 9-17].

Allowable Subject Matter

19.   Claims 15-20 are allowed.

20.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Yoo (US 6,157,559) discloses LED's being displayed the status

of the various functions in the flash device [see col. 6, lines 15-25]. Chang [US

6,894,864) discloses LED being displayed the operating status in the flash device [see

col. 3, lines 18-30].

21.   The following is a statement of reasons for the indication of allowable subject

matter:

Cited prior arts, single or combination, do not teach or fairly suggest the feature

"a portable memory /flash drive/flash memory device comprising: wherein the visually

changing sequence of illuminated LED's comprises at least four visually different states,

whereby the visually changing sequence on the display is generated when the memory

is being accessed," taken in combination with the other claimed features in claims 15

and 18.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KEVIN M. NGUYEN whose telephone number is 571-

272-7697. The examiner can normally be reached on MON-THU from 8:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, a supervisor

RICHARD A. HJERPE can be reached on 571-272-7691. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8000.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

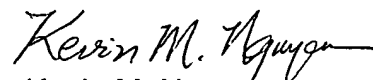published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

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http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the

Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free).

Kevin M. Nguyen
Patent Examiner
Art Unit 2629

KMN
June 9, 2006